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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,320	05/10/2007	Noriaki Kato	868_012	4731

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EXAMINER	
WESTERBERG, NISSA M	
ART UNIT	PAPER NUMBER
1618	
MAIL DATE	DELIVERY MODE
03/10/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/587,320	KATO ET AL.	
	Examiner	Art Unit	
	Nissa M. Westerberg	1618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 February 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *10 - 12, 14, 18 , 20, 21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10 - 12, 14, 18 , 20, 21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Withdrawal of Finality

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn. The withdrawal of finality is being made primarily to further clarify the obviousness of the instant claims.

Response to Amendment

2. The declaration under 37 CFR 1.132 filed February 26, 2010 is sufficient to overcome the rejection of claims 10 - 12, 14, 18 - 21 based upon Mylari (US 6,426,341).

Response to Arguments

3. Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection presented below.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 10 – 12, 14 and 18 – 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mylari (US 6,426,341) in view of Crary (US 5,639,482).

Mylari discloses the administration of aldolase reductase inhibitors (ARIs) such as fidarestat to diabetic patients (col 2, ln 25 – 26, 35 – 39). Fidarestat is the compound of instant claim 12. ARIs act in humans and other animals to prevent or reduce unwanted accumulation of galactitol (col 1, ln 10 – 28) and are of therapeutic value for controlling certain diabetic complication such as diabetic nephropathy, diabetic neuropathy and diabetic retinopathy (col 1, ln 28- 32). The methods and compositions of Mylari containing an ARI are useful in treating diabetic complications, including, but not limited to, diabetic retinopathy (col 2, ln 35 – 39). The compositions can be administered orally (col 7, ln 14; Formulations 1 – 4, col 10).

Mylari does not disclose diabetic diffuse macular edema as a diabetic complication which can be treated using an ARI such as fidarestat.

Crary discloses that compositions comprising selenium have been used for the treatment and prevention of macular edema in diabetic retinopathy (col 1, ln 53 – 55). While selenium and vitamin E have been used in combination with other compounds for the treatment of diabetic retinopathy and recurrent macular edema, the use of the two compounds alone was not previously suggested (col 2, ln 38 – 44). Two patients suffering from background diabetic retinopathy and diffused macular edema (patients 1 and 4) as well as two patients only identified as having type II diabetes and diffuse macular edema (patients 2 and 3) showed improved visual acuity and clearance of the

macular edema upon administration of vitamin E and selenium (col 3, ln 17 – col 4, ln 15).

It would have been obvious to the person of ordinary skill in the art at the time the invention was made to administer fidarestat to a patient suffering from diabetic diffuse macular edema. The person of ordinary skill in the art would have been motivated to make those modifications and reasonably would have expected success because Mylari discloses that administration of ARIs such as fidarestat are useful in the treatment of a wide variety of diabetic complications including diabetic retinopathy and Crary discloses that compositions which are useful for the treatment of diabetic retinopathy are also useful in the treatment of diffuse macular edema. Diabetic patients in Crary with only diffuse macular edema or both diabetic retinopathy and diffuse macular edema experienced improvement in vision. As the same active agent is being administered to the same patient population, namely human subjects with diabetic diffuse macular edema, the same results must occur, whether those result in ameliorating the diabetic diffuse macular edema alone or when such amelioration consequently inhibits a deterioration of visual acuity of the subject.

8. Claims 10 – 12, 14 and 18 – 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akita et al. (Acta Med Okayama) in view of Crary (US 5,639,482) and Wani et al. (JK Practitioner 2003).

Akita et al. discloses the use of SNK-980, the compound of claim instant 12, as an aldose reductase inhibitor for the treatment of histopathological changes in retinal

tissues (p 299, col 1 – col 2). In a diabetic rat model, SNK-860 was administered orally (p 300, col 1, paragraph 2). Diabetic rats that were not administered SNK-860 developed pathological folding of the retina with retinal edema or cell dissociation that was not seen in non-diabetic rats or diabetic rats given SNK-860 (p 300, col 2, paragraph 5). Leakage of albumin from the blood vessels in the area under these folds of diabetic rats not receiving SNK-860 was also observed (p 302, col 2, paragraph 2).

Akita et al. does not explicitly disclose the treatment of diabetic diffuse macular edema with SNK-860 in human subjects.

Crary discloses that compositions comprising selenium have been used for the treatment and prevention of macular edema in diabetic retinopathy (col 1, ln 53 – 55). While selenium and vitamin E have been used in combination with other compounds for the treatment of diabetic retinopathy and recurrent macular edema, the use of the two compounds alone was not previously suggested (col 2, ln 38 – 44). Two patients suffering from background diabetic retinopathy and diffused macular edema (patients 1 and 4) as well as two patients only identified as having type II diabetes and diffuse macular edema (patients 2 and 3) showed improved visual acuity and clearance of the macular edema upon administration of vitamin E and selenium (col 3, ln 17 – col 4, ln 15).

Wani et al. disclose that diabetic retinopathy can cause blindness in both the proliferative and background stages of the disease. In the background stages of diabetic retinopathy, visual impairment is caused by the direct involvement of the macular area, a condition to which the term maculopathy is often applied (p 276, col 2, ¶ 1). “The

maculopathy is invariably associated with other changes of either proliferative or proliferative diabetic retinopathy Diabetic maculopathy has varied clinical manifestations and presents differently in different patients. Patients with early diabetic retinopathy are usually asymptomatic and the fundus changes are usually not clinically apparent before 5 years of systemic disease" (p 277, col 2, ¶ 2). It is the development of edema, exudates, etc. that leads to patients complaining of visual symptoms (p 277, col 2, ¶ 2), at which time when they were likely to go to a doctor for diagnosis. Depending on the predominant clinical features, maculopathy can be divided into types such a focal, diffuse and ischemic but there is often overlap between these categories and many reports do not distinguish between the various forms but only discuss macular edema, the first and dominant sign of maculopathy (p 277, col 2, ¶ 3).

It would have been obvious to the person of ordinary skill in the art at the time the invention was made to orally administer SNK-860 to a human subject suffering from diabetic diffuse macular edema. The person of ordinary skill in the art would have been motivated to make those modifications and reasonably would have expected success because Akita et al. discloses that SNK-860 administration inhibits the histopathological changes in the eyes of diabetic rats. Crary and Wani et al. together teach that diffuse macular edema is a complication of diabetes and that the same agent can be used to treat both diabetic retinopathy and diffuse macular edema. Thus, given the relationship set forth in Wani et al. as to the interrelatedness of the various ocular complications of diabetes and the teachings of Crary that the same agents can be used to treat both diffuse macular edema and diabetic retinopathy, it would have been obvious to

administer SNK-860 to human diabetics with diffuse macular edema in order to treat the histopathological changes that occur in the eye, as taught by Akita et al.

As the same active agent is being administered to the same patient population, human subjects with diabetic diffuse macular edema, the same results must occur, whether those result by ameliorating the diabetic diffuse macular edema alone or when such amelioration consequently inhibits a deterioration of visual acuity of the subject.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nissa M. Westerberg whose telephone number is (571)270-3532. The examiner can normally be reached on M - F, 8:00 a.m. - 4 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Hartley can be reached on (571) 272-0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael G. Hartley/
Supervisory Patent Examiner, Art Unit 1618

NMW